

Appendix F

Part 6

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ATTACHMENT A

**EPA'S REVISED EXPOSURES, RISKS, AND HAZARDS
HUMAN HEALTH RISK ASSESSMENT
LEMON LANE LANDFILL
BLOOMINGTON, MONROE COUNTY, INDIANA**

TABLE 1

REVISED RISK SUMMARY^a
HUMAN HEALTH RISK ASSESSMENT
LEMON LANE LANDFILL
BLOOMINGTON, MONROE COUNTY, INDIANA

Exposure Pathway	Location ^b			
	Country Club Road	Fluckmill Road	Strain Ridge Road	Quarry Springs
Fish Ingestion ^c	8.3E-06	5.7E-05	8.5E-05	8.3E-06
Surface Water - Incidental Ingestion	4.5E-10	6.2E-10	1.8E-10	2.0E-08
Surface Water - Dermal Contact	7.8E-10	1.1E-09	3.1E-10	9.1E-09
Sediment - Incidental Ingestion	8.2E-08	8.2E-08	1.4E-07	6.7E-06 ^d
Sediment - Dermal Contact	7.3E-08	7.3E-08	1.2E-07	6.0E-06 ^d
Surface Soil - Incidental Ingestion	NA	NA	NA	2.5E-06 ^e
Surface Soil - Dermal Contact	NA	NA	NA	1.4E-06 ^e
Bank Soil - Incidental Ingestion	7.8E-08	7.8E-08	1.0E-07	NA
Bank Soil - Dermal Contact	4.3E-08	4.3E-08	5.7E-08	NA
Floodplain Soil - Incidental Ingestion	2.7E-07	2.7E-07	2.7E-07 ^f	NA
Floodplain Soil - Dermal Contact	1.5E-07	1.5E-07	1.5E-07 ^f	NA
Totals ^g - All	8E-06 (97.3) ^h	6E-05 (99.6) ^h	9E-05 (99.7) ^h	2E-05 (49.8) ^h
Totals ^g - No Fish	2E-07	2E-07	3E-07	8E-06

Notes:

NA = Not Applicable

RMI = Reasonable maximum exposure

^a See Appendix B of the draft HHRA for detailed receptor and exposure pathway-specific calculations (Tetra Tech 2005). All risk values presented are for adult receptors.

^b See Figures 2 and 4 of the draft HHRA for locations of Quarry Springs and of Country Club Road, Fluckmill Road, Strain Ridge Road, upper Clear Creek, and lower Clear Creek, respectively (Tetra Tech 2005).

^c Risks presented represent polychlorinated biphenyl (PCB) risks based on consumption of 90 percent pelagic and 10 percent benthic fish.

^d This result is for Quarry Springs A and represents the highest result in the Quarry Springs area. The risk results for Quarry Springs B and C are less than 1E-06.

^e This result is for Quarry Springs, Combined.

^f This result is for upper Clear Creek; floodplain soil results are not available for lower Clear Creek.

^g

For Country Club Road, Fluckmill Road, and Strain Ridge Road, totals represent the sum of receptor-specific fish ingestion risk plus all surface water, sediment, bank soil, and floodplain soil risks. For Quarry Springs, totals represent the sum of receptor-specific fish ingestion for Country Club Road and surface water, sediment, and surface soil risks at Quarry Springs. The location-specific totals are detailed below:

Country Club Road -- fish ingestion risk (Country Club Road), surface water risks (Country Club Road), and bank soil, floodplain soil, and sediment risks (upper Clear Creek). Note: bank soil, floodplain soil, and sediment risks are each divided by a factor of 3 prior to summing to eliminate over estimation introduced by allowing 100 milligrams per day of each medium when considering each medium on its own.

Fluckmill Road -- fish ingestion risk (Fluckmill Road), surface water risks (Fluckmill Road), and bank soil, floodplain soil, and sediment risks (upper Clear Creek). Note: Repeat same as for Country Club Road.

Strain Ridge Road -- fish ingestion risk (Strain Ridge Road), surface water risk (Strain Ridge Road), sediment and bank soil (lower Clear Creek), and floodplain soil (upper Clear Creek- floodplain soil results are not available for lower Clear Creek). Note: repeat same as for Country Club Road.

Quarry Springs -- fish ingestion risk (Country Club Road), surface water risks (Quarry Springs, combined), sediment risks (Quarry Springs A), surface soil risks (Quarry Springs, combined). Note: sediment and surface soil risks are each divided by a factor of 2 prior to summing to eliminate over estimation by allowing 100 milligrams per day of each medium when considering each medium on its own.

^h Parenthetical values represent the percent of the total risk represented by the fish ingestion.

TABLE 2
REVISED HAZARD SUMMARY^a
HUMAN HEALTH RISK ASSESSMENT
LEMON LANE LANDFILL
BLOOMINGTON, MONROE COUNTY, INDIANA

Exposure Pathway	Location ^b			
	Country Club Road	Fluckmill Road	Strain Ridge Road	Quarry Springs
Fish Ingestion ^c	4.8E-01	3.4E+00	5.0E+00	4.8E-01
Surface Water - Incidental Ingestion	2.6E-05	3.6E-05	1.1E-05	1.2E-03
Surface Water - Dermal Contact	4.6E-05	6.4E-05	1.8E-05	5.3E-04
Sediment - Incidental Ingestion	4.8E-03	4.8E-03	8.0E-03	3.9E-01 ^d
Sediment - Dermal Contact	4.3E-03	4.3E-03	7.2E-03	3.5E-01 ^d
Surface Soil - Incidental Ingestion	NA	NA	NA	1.5E-01 ^e
Surface Soil - Dermal Contact	NA	NA	NA	8.1E-02 ^e
Bank Soil - Incidental Ingestion	4.5E-03	4.5E-03	6.0E-03	NA
Bank Soil - Dermal Contact	2.5E-03	2.5E-03	3.3E-03	NA
Floodplain Soil - Incidental Ingestion	1.6E-02	1.6E-02	1.6E-02 ^f	NA
Floodplain Soil - Dermal Contact	8.7E-03	8.7E-03	8.7E-03 ^f	NA
Totals ^g - All	4.9E-01 (97.3) ^h	3.4E+00 (99.6) ^h	5.0E+00 (99.7) ^h	9.7E-01 (49.8) ^h
Totals ^g - No Fish	1.4E-02	1.4E-02	1.6E-02	4.8E-01

Notes:

NA = Not Applicable
RME = Reasonable maximum exposure

^a See Appendix B of the draft HHRA for detailed receptor and exposure pathway-specific calculations (Tetra Tech 2005). All risk values presented are for adult receptors.

^b See Figures 2 and 4 of the draft HHRA for locations of Quarry Springs and of Country Club Road, Fluckmill Road, Strain Ridge Road, upper Clear Creek, and lower Clear Creek, respectively (Tetra Tech 2005).

^c Risks presented represent polychlorinated biphenyl (PCB) risks based on consumption of 90 percent pelagic and 10 percent benthic fish.

^d This result is for Quarry Springs A and represents the highest result in the Quarry Springs area. The risk results for Quarry Springs B and C are less than 1E-06.

^e This result is for Quarry Springs, Combined.

^f This result is for upper Clear Creek; floodplain soil results are not available for lower Clear Creek. For Country Club Road, Fluckmill Road, and Strain Ridge Road, totals represent the sum of receptor-specific fish ingestion risk plus all surface water, sediment, bank soil, and floodplain soil risks. For Quarry Springs, totals represent the sum of receptor-specific fish ingestion for Country Club Road and surface water, sediment, and surface soil risks at Quarry Springs. The location-specific totals are detailed below:

Country Club Road -- Fish ingestion risk (Country Club Road), surface water risks (Country Club Road), and bank soil, floodplain soil, and sediment risks (upper Clear Creek). Note: bank soil, floodplain soil, and sediment risks are each divided by a factor of 3 prior to summing to eliminate over estimation introduced by allowing 100 milligrams per day of each medium when considering each medium on its own.

Fluckmill Road -- fish ingestion risk (Fluckmill Road), surface water risks (Fluckmill Road), and bank soil, floodplain soil, and sediment risks (upper Clear Creek). Note: Repeat same as for Country Club Road.

Strain Ridge Road -- fish ingestion risk (Strain Ridge Road), surface water risk (Strain Ridge Road), sediment and bank soil (lower Clear Creek), and floodplain soil (upper Clear Creek- floodplain soil results are not available for lower Clear Creek). Note: repeat same as for Country Club Road.

Quarry Springs -- fish ingestion risk (Country Club Road), surface water risks (Quarry Springs, combined), sediment risks (Quarry Springs A), surface soil risks (Quarry Springs, combined). Note: sediment and surface soil risks are each divided by a factor of 2 prior to summing to eliminate over estimation by allowing 100 milligrams per day of each medium when considering each medium on its own.

^h Parenthetical values represent the percent of the total risk represented by the fish ingestion

TABLE A1
REVISED GENERAL AND CHEMICAL-SPECIFIC EXPOSURE PARAMETER VALUES
HUMAN HEALTH RISK ASSESSMENT
LEMON LANE LANDFILL
BLOOMINGTON, MONROE COUNTY, INDIANA

Exposure Parameter	Acronym	Units	Values		
			Adult (18+)	Youth (7 to 18)	Child (1 to 6)
Exposure Point Concentrations	EPC	varies	See Table A2	See Table A2	See Table A2
Exposure Frequency (surface water and sediment_QS. CC. FM. UCC)	EF _{sw} and EF _{sed}	days/year	68	68	68
Exposure Frequency (surface, bank and floodplain soil_QS&UCC)	EF _{bks} and EF _s	days/year	76	76	76
Exposure Frequency (aquatic life)	EF _{al}	days/year	365	365	365
Exposure Frequency (surface water and sediment_SR&LCC)	EF _{sw SR} and EF _{sed}	days/year	30	30	30
Exposure Frequency (surface, bank, and floodplain soil_LCC)	EF _{bks} , EF _s and EF _{fs}	days/year	38	38	38
Exposure Duration	ED	years	30	12	6
Fraction Contaminated_soil	FC _s	unitless	0.5	0.5	0.5
Body Weight	BW	kg	70	47	15
Ingestion Rate (aquatic life)	IR _{al}	kg/day	see below	NA	NA
Ingestion Rate (sediment and soil)	IR _{sed} and IR _{soil}	mg/day	100	100	200
Ingestion Rate (surface water)	IR _{sw}	L/day	7.50E-03	1.50E-02	1.50E-02
Cooking Reaction Factor	CRF	unitless	0.5	0.5	0.5
Skin Surface Area (sediment)	SA _{sed}	cm ²	2129	1640	809
Skin Surface Area (soil)	SA _{soil}	cm ²	5700	4373	2378
Skin Surface Area (surface water)	SA _{sw}	cm ²	see below		
Adherence Factor (sediment)	AF _{sed}	mg/cm ²	0.3	0.3	0.3
Adherence Factor (soil)	AF _{soil}	mg/cm ²	0.07	0.2	0.2
Dermal Absorption	ABS	unitless	Chemical Specific- see below		
Absorbed Dose per Event	DA _{event}	mg/cm ² -event	Chemical Specific- see below		
Exposure Time	ET	hr/day	1	1	1
Event Frequency	EV	event/day	1	1	1
Conversion Factor 1	CF1	mg/ng	1.00E-06	1.00E-06	1.00E-06
Conversion Factor 2	CF2	mg/µg	1.00E-03	1.00E-03	1.00E-03
Conversion Factor 3	CF3	kg/mg	1.00E-06	1.00E-06	1.00E-06
Averaging Time (carcinogens)	AT _c	days	25550	25550	25550
Averaging Time (noncarcinogens)	AT _{nc}	days	10950	4380	2190
Gastrointestinal Absorption	GI	unitless	Chemical Specific- see below		
Chronic Oral Exposure Reference Dose	RfD	mg/kg-day	Chemical Specific- see below		
Oral Slope Factor	SF	(mg/kg-day) ⁻¹	Chemical Specific- see below		

Note: See footnotes to Table 3 from the draft HHRA (Tetra Tech 2005) and individual EPA responses.

TABLE A1

**REVISED GENERAL AND CHEMICAL-SPECIFIC EXPOSURE PARAMETER VALUES
HUMAN HEALTH RISK ASSESSMENT
LEMON LANE LANDFILL
BLOOMINGTON, MONROE COUNTY, INDIANA**

Ingestion Rate of Aquatic Life				
Rate	units	Values		
		Adult (18+)	Youth (7 to 18)	Child (1 to 6)
County Club Rd	kg/day	0.003	--	--
Fluckmill Rd	kg/day	0.012	--	--
Strain Ridge Rd	kg/day	0.025	--	--

Skin Surface Area (surface water) Location Specific Values				
Location	units	Values		
		Adult (18+)	Youth (7 to 18)	Child (1 to 6)
Quarry Springs, Combined	cm ²	1225	949	451
Country Club Road	cm ²	4665	4578	2932
Fluckmill Road	cm ²	4665	4578	2932
Strain Ridge Road	cm ²	4565	3263	2374

Chemical	Chemical Specific Values							Toxicity Factors^b		
	ABS	FA	K_p	C_w	τ_{event}	t_{event}	GI	RfD	SF	
PCB	0.14	0.5	4.30E-01	see note	11.29	2	0.8 to .96	2.00E-05	2	
TEQ	--	--	--	--	--	--	0.5 to 0.83	1.00E-09	1.50E+05	
TEQ _{EPA alternate}	--	--	--	--	--	--	--	--	1.00E+06	

Notes:

- = Not applicable
- ABS = Dermal absorption factor (unitless)
- C_w = Chemical concentration in water - this concentration is equivalent to the location-specific surface water exposure point concentration (EPC) (see Table 4) in units of milligrams per cubic centimeter (mg/cm³).
- FA = Fraction absorbed water (unitless)
- GI = Gastrointestinal absorption (unitless)
- K_p = Dermal permeability coefficient in water (centimeter per hour [cm/hr])
- PCB = Polychlorinated biphenyl
- RfD = Oral reference dose (milligram per kilogram - day [mg/kg-day])
- SF = Oral slope factor (mg/kg-day)⁻¹
- τ_{event} = Lag time per event (hour per event [hr/event])
- t_{event} = Event duration (hr/event)
- TEQ = Toxicity equivalent

^a PCB-specific exposure factors were obtained from EPA (2004a).

^b PCB-specific toxicity factors were identified as discussed in Sections 4.2.2 and 4.3.2 of the draft HHRA (Tetra Tech 2005).

TABLE A2
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATIONS
HUMAN HEALTH RISK ASSESSMENT
LEMON LANE LANDFILL
BLOOMINGTON, MONROE COUNTY, INDIANA

Chemical	Values							
	EPC _{nh(90;10)} (ug/kg-PCB/ ng/kg-TEQ)	EPC _{nl(pelagic)} (ug/kg-PCB/ ng/kg-TEQ)	EPC _{nl(benthic)} (ug/kg-PCB/ ng/kg-TEQ)	EPC _{su} (mg/L)	DA _{event} (mg/cm ² -event)	EPC _{sed} (mg/kg)	EPC _{bs} (mg/kg)	EPC _{fs} (mg/kg)
Country Club Road								
PCB	448.9	416	744.5	2.60E-05	7.34E-11	--	--	--
TEQ	9.65	9.6	10.1	--	--	--	--	--
Fluckmill Road								
PCB	781.5	768.8	895.8	3.65E-05	1.03E-10	--	--	--
TEQ	9.3	9.5	7.1	--	--	--	--	--
Strain Ridge Road								
PCB	557.2	480.9	1243.8	2.40E-05	6.78E-11	--	--	--
TEQ	9.9	9.3	15.5	--	--	--	--	--
Upper Clear Creek^c								
PCB	--	--	--	--	0.36	0.61	2.09	--
Lower Clear Creek^d								
PCB	--	--	--	--	1.37	1.6	--	--
Quarry Springs A								
PCB	--	--	--	--	29.3	--	--	--
Quarry Springs B								
PCB	--	--	--	--	3.5	--	--	--
Quarry Springs C								
PCB	--	--	--	--	0.6	--	--	--
Quarry Springs Combined								
PCB	--	--	--	1.15E-03	3.25E-09	--	--	19.6

Notes:

-- = Not applicable

µg/kg = Microgram per kilogram

mg/kg = Milligram per kilogram

mg/L = Milligram per liter

ng/kg = Nanogram per kilogram

PCB = Polychlorinated biphenyl

TEQ = Toxicity equivalent

^a Medium-specific EPC calculations are discussed in Section 3.3.1 and presented in Appendix A of the draft HHRA (Tetra Tech 2005).

^b See Figures 1, 2, and 4.

^c Upper Clear Creek extends from Gordon Pike Road about 5 miles downstream of the Lemon Lane Landfill to just upstream of Ketcham Road about 16 miles downstream of the Lemon Lane Landfill. For the purposes of calculating sediment exposure point concentrations (EPC), sediment samples collected from Country Club and Fluckmill Roads are considered to be representative of conditions in upper Clear Creek.

^d Lower Clear Creek extends from just upstream of Ketcham Road about 16 miles downstream of the Lemon Lane Landfill to the confluence of Clear and Salt Creeks about 22 miles downstream of the Lemon Lane Landfill. For the purposes of calculating sediment EPCs, sediment samples collected from Strain Ridge Road are considered representative of conditions in lower Clear Creek.

TABLE A-3

**REVISED FISH INGESTION RISKS AND HAZARDS
HUMAN HEALTH RISK ASSESSMENT
LEMON LANE LANDFILL
BLOOMINGTON, MONROE COUNTY, INDIANA**

Location	PCB		TEQ		
	Hazard	Risk	Hazard	Risk	Risk _{EPA Alt}
Country Club Road	4.81E-01	8.25E-06	2.07E-01	1.33E-05	8.86E-05
Fluckmill Road	3.35E+00	5.74E-05	7.97E-01	5.12E-05	3.42E-04
Strain Ridge Road	4.98E+00	8.53E-05	1.77E+00	1.14E-04	7.58E-04

Notes:

- RME = Reasonable maximum exposure
 PCB = Polychlorinated biphenyl
 TEQ = Toxicity equivalent
 Risk_{EPA Alt} = U.S. Environmental Protection Agency's alternative TCDD slope factor (see Section 4.2.2).

TABLE A4
REVISED SURFACE WATER RISKS AND HAZARDS
HUMAN HEALTH RISK ASSESSMENT
LEMON LANE LANDFILL
BLOOMINGTON, MONROE COUNTY, INDIANA

Chemical	ADD	Hazard	Ingestion			Dermal Contact				
			LADD	Risk	ADD	Hazard	LADD	Risk		
Adult (18+ years)										
Country Club Road										
PCB	5.19E-10	2.59E-05	2.22E-10	4.45E-10	9.12E-10	4.56E-05	3.91E-10	7.81E-10		
			Fluckmill Road							
PCB	7.29E-10	3.64E-05	3.12E-10	6.24E-10	1.28E-09	6.40E-05	5.48E-10	1.10E-09		
			Strain Ridge Road							
PCB	2.11E-10	1.06E-05	9.06E-11	1.81E-10	3.63E-10	1.82E-05	1.56E-10	3.11E-10		
			Quarry Springs, Combined							
PCB	2.30E-08	1.15E-03	9.84E-09	1.97E-08	1.06E-08	5.29E-04	4.54E-09	9.07E-09		
Youth (7 to 18 years)										
Country Club Road										
PCB	1.55E-09	7.73E-05	2.65E-10	5.30E-10	1.33E-09	6.66E-05	2.28E-10	4.57E-10		
			Fluckmill Road							
PCB	2.17E-09	1.09E-04	3.72E-10	7.44E-10	1.87E-09	9.35E-05	3.21E-10	6.41E-10		
			Strain Ridge Road							
PCB	6.30E-10	3.15E-05	1.08E-10	2.16E-10	3.87E-10	1.93E-05	6.63E-11	1.33E-10		
			Quarry Springs, Combined							
PCB	6.84E-08	3.42E-03	1.17E-08	2.34E-08	1.22E-08	6.11E-04	2.09E-09	4.19E-09		
Child (1 to 6 years)										
Country Club Road										
PCB	4.84E-09	2.42E-04	4.15E-10	8.30E-10	2.67E-09	1.34E-04	2.29E-10	4.58E-10		
			Fluckmill Road							
PCB	6.80E-09	3.40E-04	5.83E-10	1.17E-09	3.75E-09	1.88E-04	3.22E-10	6.43E-10		
			Strain Ridge Road							
PCB	1.97E-09	9.86E-05	1.69E-10	3.38E-10	8.82E-10	4.41E-05	7.56E-11	1.51E-10		
			Quarry Springs, Combined							
PCB	2.14E-07	1.07E-02	1.84E-08	3.67E-08	1.82E-08	9.09E-04	1.56E-09	3.12E-09		

Notes:

- ADD = Average daily dose (mg/kg-day)
- LADD = Lifetime average daily dose (mg/kg-day)
- PCB = Polychlorinated biphenyl

TABLE A5
REVISED SEDIMENT AND SOIL EXPOSURES, RISKS, AND HAZARDS
HUMAN HEALTH RISK ASSESSMENT
LEMON LANE LANDFILL
BLOOMINGTON, MONROE COUNTY, INDIANA

Chemical	ADD	Hazard	Ingestion			Dermal Contact				
			LADD	Risk	ADD	Hazard	LADD	Risk		
Adult (18+ years)										
Upper Clear Creek - Sediment										
PCB	9.58E-08	4.79E-03	4.11E-08	8.21E-08	8.57E-08	4.28E-03	3.67E-08	7.34E-08		
Upper Clear Creek - Bank Soil										
PCB	9.07E-08	4.54E-03	3.89E-08	7.78E-08	5.07E-08	2.53E-03	2.17E-08	4.34E-08		
Upper Clear Creek - Floodplain Soil										
PCB	3.11E-07	1.55E-02	1.33E-07	2.66E-07	1.74E-07	8.68E-03	7.44E-08	1.49E-07		
Lower Clear Creek - Sediment										
PCB	1.61E-07	8.04E-03	6.89E-08	1.38E-07	1.44E-07	7.19E-03	6.16E-08	1.23E-07		
Lower Clear Creek - Bank Soil										
PCB	1.19E-07	5.95E-03	5.10E-08	1.02E-07	6.65E-08	3.32E-03	2.85E-08	5.70E-08		
Quarry Springs A - Sediment										
PCB	7.80E-06	3.90E-01	3.34E-06	6.68E-06	6.97E-06	3.49E-01	2.99E-06	5.98E-06		
Quarry Springs B - Sediment										
PCB	9.32E-07	4.66E-02	3.99E-07	7.98E-07	8.33E-07	4.16E-02	3.57E-07	7.14E-07		
Quarry Springs C - Sediment										
PCB	1.60E-07	7.98E-03	6.84E-08	1.37E-07	1.43E-07	7.14E-03	6.12E-08	1.22E-07		
Quarry Springs, Combined - Surface Soil										
PCB	2.92E-06	1.46E-01	1.25E-06	2.50E-06	1.63E-06	8.14E-02	6.98E-07	1.40E-06		
Youth (7 to 18 years)										
Upper Clear Creek - Sediment										
PCB	1.43E-07	7.13E-07	2.45E-08	4.89E-08	9.83E-08	4.91E-03	1.68E-08	3.37E-08		
Upper Clear Creek - Bank Soil										
PCB	1.35E-07	6.76E-03	2.32E-08	4.63E-08	1.65E-07	8.27E-03	2.84E-08	5.67E-08		
Upper Clear Creek - Floodplain Soil										
PCB	4.63E-07	2.31E-02	7.94E-08	1.59E-07	5.67E-07	2.83E-02	9.72E-08	1.94E-07		
Lower Clear Creek - Sediment										
PCB	2.40E-07	1.20E-02	4.11E-08	8.21E-08	1.65E-07	8.25E-03	2.83E-08	5.66E-08		
Lower Clear Creek - Bank Soil										
PCB	1.77E-07	8.86E-03	6.08E-08	1.22E-07	2.17E-07	1.08E-02	3.72E-08	7.44E-08		
Quarry Springs A - Sediment										
PCB	1.16E-05	5.81E-01	1.99E-06	3.98E-06	8.00E-06	4.00E-01	1.37E-06	2.74E-06		
Quarry Springs B - Sediment										
PCB	1.39E-06	6.94E-02	2.38E-07	4.76E-07	9.56E-07	4.78E-02	1.64E-07	3.28E-07		
Quarry Springs C - Sediment										
PCB	2.38E-07	1.19E-02	4.08E-08	8.15E-08	1.64E-07	8.19E-03	2.81E-08	5.62E-06		
Quarry Springs, Combined - Surface Soil										
PCB	4.34E-06	2.17E-01	1.49E-06	2.98E-06	5.32E-06	2.66E-01	9.11E-07	1.82E-06		
Child (1 to 6 years)										
Upper Clear Creek - Sediment										
PCB	8.94E-07	4.47E-02	7.66E-08	1.53E-07	1.52E-07	7.60E-03	1.30E-08	2.60E-08		
Upper Clear Creek - Bank Soil										
PCB	8.47E-07	4.23E-02	7.26E-08	1.45E-07	2.82E-07	1.41E-02	2.42E-08	4.83E-08		
Upper Clear Creek - Floodplain Soil										
PCB	2.90E-06	1.45E-01	2.49E-07	4.97E-07	9.66E-07	4.83E-02	8.28E-08	1.66E-07		
Lower Clear Creek - Sediment										
PCB	1.50E-06	7.51E-02	1.29E-07	2.57E-07	2.55E-07	1.28E-02	2.19E-08	4.37E-08		
Lower Clear Creek - Bank Soil										
PCB	1.11E-06	5.55E-02	9.52E-08	1.90E-07	3.70E-07	1.85E-02	3.17E-08	6.34E-08		
Quarry Springs A - Sediment										
PCB	7.28E-05	3.64E+00	6.24E-06	1.25E-05	1.24E-05	6.18E-01	1.06E-06	2.12E-06		
Quarry Springs B - Sediment										
PCB	8.69E-06	4.35E-01	7.45E-07	1.49E-06	1.48E-06	7.39E-02	1.27E-07	2.53E-07		
Quarry Springs C - Sediment										
PCB	1.49E-06	7.45E-02	1.28E-07	2.55E-07	2.53E-07	1.27E-02	2.17E-08	4.34E-08		
Quarry Springs, Combined - Surface Soil										
PCB	2.72E-05	1.36E+00	2.33E-06	4.66E-06	9.06E-06	4.53E-01	7.76E-07	1.55E-06		

Notes:

- ADD = Average daily dose (mg/kg-day)
- LADD = Lifetime average daily dose (mg/kg-day)
- PCB = Polychlorinated biphenyl

U.S. ENVIRONMENTAL PROTECTION AGENCY

**ADMINISTRATIVE RECORD
FOR
LEMON LANE LANDFILL SITE
BLOOMINGTON, MONROE COUNTY, INDIANA**

**UPDATE #4
SEPTEMBER 28, 2006**

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
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11	00/00/00	Monroe County	U.S. EPA	Concurrence Letter re: ROD Amendment, Operable Units Two and Three, Lemon Lane Landfill Site (PENDING)	

U.S. ENVIRONMENTAL PROTECTION AGENCY

**ADMINISTRATIVE RECORD
FOR
LEMON LANE LANDFILL SITE
BLOOMINGTON, MONROE COUNTY, INDIANA**

**UPDATE #3
JUNE 13, 2006**

<u>NO.</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
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3	1976-1997	U.S. EPA; et al.	File	Historic and Recent Data for the Westinghouse Sites: (1) IDEM/OWM Biological Studies Fish Tissue Contamination Results; (2) Recent Data for Lemon Lane, Clear Creek and Winston-Thomas Sites; (3) CBS Recent Data for Clear Creek; (4) Historic Data for Neal's Landfill and all Westinghouse Sites; (5) GMC Information Concerning Clear Creek, Salt Creek and the East Fork of the White River; and (6) Indicator Sediment Areas in Bloomington, IN Area Streams	258
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92	07/14/00	Rajaram, R. Tetra Tech EM Inc.	Alcamo, T. U.S. EPA	Field Oversight Summary for June 19 through 30, 2000 for the Lemon Lane Landfill Site w/ Cover Letter	42
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94	07/24/00	Cahn, J. U.S. EPA	McCrea, D. McCrea & McCrea	Letter re: Access to Brian and Annette Griffin Property for the Lemon Lane Landfill Site	5
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100	07/28/00	Cahn, J. U.S. EPA	McCrea, D. McCrea & McCrea	Letter re: Offer to Griffin Family of Voluntary, Temporary Relocation for the Lemon Lane Landfill Site	3
101	07/28/00	Cahn, J. U.S. EPA	Harrison, M. c/o D. McCrea, McCrea & McCrea	Letter re: Offer to Elliot Family of Voluntary, Temporary Relocation for the Lemon Lane Landfill Site	3
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104	08/03/00	Rajaram, R. Tetra Tech EM Inc.	Alcamo, T. U.S. EPA	Field Oversight Summary for July 17 through 21, 2000 for the Lemon Lane Landfill Site w/ Cover Letter	35
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127	08/31/00	Alke, D. CBS	Anaya, W. Johnson & Bell	Fax Transmission re: Relocation of PUF Sampler at Valhalla Memory Gardens for the Lemon Lane Landfill Site	3
128	08/31/00	Taylor, R. PSARA	Distribution List	Weekly Progress Status Report - Week of August 21 to 27, 2000 for the Lemon Lane Landfill Site	15
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143	10/02/00	Hessling, M. PSARA	Alke, D. CBS	Fax Transmission: Revised PUF Location Map for the Lemon Lane Landfill Site w/Cover Sheet	2
144	10/03/00	U.S.EPA	File	Weekly Status Meeting October 3, 2000 for the Lemon Lane Landfill Site	9
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292	09/17/04	Viacom	U.S. EPA	Next Steps for Sampling of PCBs in Quarry Springs Waters for the Lemon Lane Landfill Site	12
293	10/13/04	Alke, D. Viacom	Distribution List	Quarterly Inspection Report Third Quarter 2004 for the Lemon Lane Landfill Site w/ Cover Letter	9
294	10/26/04	Viacom	Distribution List	Final Clear Creek Fish, Water and Sediment Sampling and Analysis Plan for the Lemon Lane Landfill Site: QAPjP Volume XLI w/ Cover Letter	27
295	10/28/04	Lifka, J. Tetra Tech EM Inc.	Alcamo, T. U.S. EPA	Field Sampling Plan for the Lemon Lane Landfill Site w/ Cover Letter	15
296	11/01/04	Viacom	U.S. EPA	Report of Sediment and Soil Sampling and Analysis on Clear Creek	931
297	11/04/04	Viacom	Distribution List	Surface Water, Flow and Water Level Monitoring First Quarter 2004 for the Lemon Lane Landfill Site	105

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299	12/21/04	Lifka, J. Tetra Tech EM Inc.	Alcamo, T. U.S. EPA	Fish Tissue Sample Analytical Results for the Lemon Lane Landfill Site w/ Cover Letter	20
300	12/30/04	Lifka, J. Tetra Tech EM Inc.	Alcamo, T. U.S. EPA	Field Oversight Summary November 1-6, 2004 Clear Creek Investigation for the Lemon Lane Landfill Site w/ Cover Letter	77
301	01/07/05	Alke, D. Viacom	Distribution List	Quarterly Inspection and Maintenance Report Fourth Quarter 2004 for the Lemon Land Landfill Site w/ Cover Letter	5
302	02/22/05	Lifka, J. Tetra Tech EM Inc	Alcamo, T. U.S. EPA	Letter re: Spring Receiving Sump Overflow Pilot Test Sample Analytical Results for the Lemon Lane Landfill Site w/ Enclosure	5
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305	03/24/05	Alke, D. Viacom	Distribution List	Quarterly Inspection and Maintenance Report: First Quarter 2005 for the Lemon Lane Landfill Site w/ Cover Letter	5
306	04/08/05	Lifka, J. Tetra Tech EM Inc.	Alcamo, T. U.S. EPA	Final Technical Memorandum Regarding Stream Conditions and Fish Sampling Activities in Clear Creek for the Lemon Lane Landfill Site w/ Cover Letter	9
307	04/22/05	Viacom	Distribution List	Surface Water, Flow and Water Level Monitoring Second Quarter 2004 for the Lemon Lane Landfill Site w/ Cover Letter	93

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310	05/26/05	Viacom	Distribution List	Clear Creek November 2004 Fish Sample Congener PCB Validation for the Lemon Lane Landfill Site w/ Cover Letter	21
311	05/26/05	Viacom	Distribution List	Clear Creek November 2004 Sediment Sample PCB Validation for the Lemon Lane Landfill Site w/Cover Letter	42
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313	06/20/05	Lifka, J. Tetra Tech EM Inc.	Alcamo, T. U.S. EPA	Field Oversight Summary May 17-25, 2005 Clear Creek Sediment Investigation for Lemon Lane Landfill Site w/ Cover Letter	57
314	06/23/05	Alke, D., Viacom	Distribution List	Memorandum re: Quarterly Inspection and Maintenance Report for Second Quarter 2005 for the Lemon Lane Landfill Site	6
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320	07/28/05	Viacom	Alcamo, T. U.S. EPA	Upper Clear Creek Flood Plain Sampling and Analysis Plan for the Lemon Lane Landfill Site w/ Cover Letter	49
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324	08/22/05	Alke, D. Viacom	Alcamo, T. U.S. EPA	Letter re: Addendum to Upper Clear Creek Flood Plain and Analysis Plan for the Lemon Lane Landfill Site w/ Enclosures	6
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330	10/05/05	Alke, D., Viacom	Distribution List	Letter re: Surface Water, 100 Flow and Water Level Monitor- ing Fourth Quarter 2004 for the Lemon Lane Landfill Site	
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334	10/21/05	Lifka, J. Tetra Tech EM Inc	Alcamo, T. U.S. EPA	Upper Clear Creek Flood Plain Soil Split Sample Analytical Results for the Lemon Lane Landfill Site w/ Cover Letter	5
335	10/31/05	Lifka, J. Tetra Tech EM Inc.	Alcamo, T. U.S. EPA	Field Oversight Summary September 19-28, 2005 Clear Creek Sediment Investigation for the Lemon Lane Landfill Site w/ Cover Letter	42
336	11/01/05	Viacom	U.S. EPA	Upper Clear Creek Flood Plain Soil Sampling and Analysis Report	522
337	11/09/05	Lifka, J. Tetra Tech EM Inc.	Alcamo, T. U.S. EPA	Clear Creek Sediment and Bank Soil Split Sample Analytical Results for the Lemon Lane Landfill Site w/ Cover Letter	5
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342	12/21/05	Alke, D., Viacom	Distribution List	Letter re: Sediment and Soil Sampling and Analysis Report for Lower Clear Creek	267
343	12/23/05	Tetra Tech EM Inc.	U.S. EPA	Human Health Risk Assess- ment for the Lemon Lane Landfill Site	108
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345	03/02/06	CBS	Government Parties	Summary of Lemon Lane Conduit Investigation from 2002-2005	16
346	03/07/06	Walston, L., et al., U.S. EPA/FIELDS	Alcamo, T., U.S. EPA	Technical Memorandum: FIELDS Report on Clear Creek PCB Contamination Characterization at Bloomington, IN	24
347	03/08/06	Alke, D., CBS	Alcamo, T., U.S. EPA	E-Mail Transmission re: Cost Estimate for IC/QS Sediment Removal	2
348	03/08/06	Burck, T., IDEM	Alcamo, T., U.S. EPA	Letter re: Sludge Sampling Results for the Illinois Central Springs Treatment Facility	8
349	03/17/06	Burck, T., IDEM	Alcamo, T., U.S. EPA	Letter re: ARARS for the Lemon Lane Landfill Site	3
350	03/17/06	Lifka, J., Tetra Tech EM Inc.	Alcamo, T., U.S. EPA	Letter re: Lower Clear Creek Sediment and Soil Sampling and Analysis Report for the Lemon Lane Landfill Site	4

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352	03/24/06	Alke, D., CBS	Distribution List	Letter re: Quarterly Inspection and Maintenance Report First Quarter 2006 for the Lemon Lane Landfill Site	7
353	04/07/06	Lifka, J., Tetra Tech EM Inc.	Alcamo, T., U.S. EPA	Letter re: Surface Water Sample Analytical Results for the Lemon Lane Landfill Site	28
354	04/11/06	Chapman, J., U.S. EPA	Alcamo, T., U.S. EPA	Memorandum re: Spatial Trends in PCB Accumulation in Clear Creek Fish in 2002 and 2004 for the Lemon Lane Landfill Site	34
355	04/13/06	Fliss, J., IDEM	Alcamo, T., U.S. EPA	Letter: Discharge Criteria for Remedial Alternatives Proposed for Lemon Lane Landfill	2
356	04/19/06	McCann, M., CBS	U.S. EPA	Report: Confirmation of PCB Contamination in the Bedrock Strata of the Southeast Corner of Lemon Lane Landfill	32
357	06/00/06	Earth Tech, Inc.	U.S. EPA	Alternative Evaluation: Screening of Remedial Alternatives for the Illinois Central Spring Water Facility	153
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U.S. ENVIRONMENTAL PROTECTION AGENCY

ADMINISTRATIVE RECORD
FOR
LEMON LANE LANDFILL SITE
BLOOMINGTON, MONROE COUNTY, INDIANA

EPA Region 5 Records Ctr.



237452

UPDATE #2
OCTOBER 28, 2005

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1	08/00/90	U.S. EPA/ OERR	U.S. EPA	Guidance: Guidance on Remedial Actions for Superfund Sites with PCB Contamination (EPA 540-G- 90/007)	
2	02/00/91	U.S. EPA/ OERR	U.S. EPA	Guidance: Conducting Remedial Investigations/ Feasibility Studies for CERCLA Municipal Landfill Sites (EPA/540/P-91/001)	
3	11/15/96	Agency for Toxic Substances and Disease Registry	U.S. EPA	Public Health Assessment for the Bloomington PCB Sites Volume 1 of 3 (Revision to April 1994 Report)	
4	11/15/96	Agency for Toxic Substances and Disease Registry	U.S. EPA	Public Health Assessment for the Bloomington PCB Sites Volume 2 of 3 (Revision to April 1994 Report)	
5	11/15/96	Agency for Toxic Substances and Disease Registry	U.S. EPA	Public Health Assessment for the Bloomington PCB Sites Volume 3 of 3 (Revision to April 1994 Report)	

**U. S. ENVIRONMENTAL PROTECTION AGENCY
REMEDIAL ACTION**

**ADMINISTRATIVE RECORD
FOR
LEMON LANE LANDFILL
BLOOMINGTON, INDIANA**

**UPDATE #1
MAY 12, 2000**

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1	04/27/98	Fernandez, J., City of Bloomington	Wilson, L. Clean Land, Air & Water	E-Mail Memorandum re: Proposed Cleanup at the Lemon Lane Landfill Site	2
2	01/19/99	Alke, D., CBS Corporation	Distribution List	Memorandum re: Conduit Investigation Progress Report for the Lemon Lane Landfill Site w/ Attach- ments 1-5	217
3	01/20/99	Alke, D., CBS Corporation	Distribution List	Memorandum re: Conduit Investigation Data Distribution for 1999 w/ Attachments 1-13	432
4	12/09/99	Harrison, M., et al.; Attorneys	Addressees	Notice of Intent to Sue on Behalf of Ms. S. Frey and Protect Our Woods, Inc. re: Bloomington Sites	477
5	12/16/99	McCann, M., CBS Corporation	Alcamo, T., U.S. EPA	Memorandum re: Exploratory Borings at the Lemon Lane Landfill Site	4
6	01/19/00	Fisher, C., Fisher Reporting, Inc.	U.S. EPA	Transcript: January 19, 2000 Proposed Plan Public Meeting for the Lemon Lane Landfill Site	33
7	01/22/00	Pace, J. & G. Hegeman; League of Women Voters/ Bloomington- Monroe County	Kimbrough, D., U.S. EPA/ OPA	Letter re: LWV's Comments on the Proposed Revised Source Control Remedy for the Lemon Lane Landfill Site	3
8	02/00/00	Concerned Citizens	U.S. EPA	Sixteen Public Comment Sheets re: the Proposed Plan for the Source Control Operable Unit at the Lemon Lane Landfill Site (Received February 2- March 8, 2000)	16

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10	02/29/00	Anaya, W., <i>Johnson</i> & Bell, <i>Ltd.</i>	Kimbrough, D., U.S. EPA/ OPA	Letter re: Loewen Group's Additional Comments on the Proposed Plan for the Source Control Operable Unit at the Lemon Lane Landfill Site	3
11	03/01/00	Alke, D., CBS Corporation	Alcamo, T., U.S. EPA	Letter re: CBS' Comments on the Proposed Plan for the Source Control Operable Unit at the Lemon Lane Landfill Site	9
12	03/03/00	Baker, M., Coalition Opposed to PCB Ash in Monroe County, Inc.	Kimbrough, D., U.S. EPA/ OPA	Letter re: COPA's Comments on the Proposed Plan for the Source Control Operable Unit at the Lemon Lane Landfill Site	7
13	03/04/00	Frey, S. & Protect Our Woods, Inc.	Kimbrough, D., U.S. EPA/ OPA	Notice of Intent to Sue Supplement 1: S. Frey/ POW's Comments on U.S. EPA's Proposed Plan for the Source Control Operable Unit at the Lemon Lane Landfill Site	31
14	03/04/00	Cartmell, J.	Alcamo, T. & D. Kimbrough; U.S. EPA	E-Mail Memorandum re: Comments on the Proposed Plan for the Source Control Operable Unit at the Lemon Lane Landfill Site	35
15	05/12/00	U.S. EPA	Public	Record of Decision Amend- ment w/Responsiveness Summary and Attachments for the Source Control Operable Unit at the Lemon Lane Landfill Site	748

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U. S. ENVIRONMENTAL PROTECTION AGENCY
REMEDIAl ACTION

EPA Region 5 Records Ctr.

ADMINISTRATIVE RECORD
FOR

LEMON LANE LANDFILL SITE
BLOOMINGTON, MONROE COUNTY, INDIANA



224134

ORIGINAL
DECEMBER 28, 1999

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2	00/00/00	U.S. EPA	File	Table; Monitoring Well Details for the Lemon Lane Landfill Site	3
3	00/00/00	Metcalf & Eddy	U.S. EPA	Charts/Drawing: Proposed Well Locations for the Lemon Lane Landfill Site	4
4	00/00/00	Metcalf & Eddy; et al.	U.S. EPA	Charts/Notes re: Boring Well Data for the Lemon Lane Landfill Site	28
5	00/00/00	Metcalf & Eddy	U.S. EPA	Charts/Graphs re: Seismic Data for the Lemon Lane Landfill Site	80
6	00/00/00	O'Brien & Gere; et al.	U.S. EPA	Charts/Graphs/Notes re: Well Data for the Lemon Lane Landfill Site	95
7	00/00/00	U.S. EPA	File	Groundwater Investigation Plan for the Lemon Lane Landfill Site w/Attachments	24
8	00/00/00	Krothe, N., Indiana University	File	Paper: Fracture Trace Analysis for the Lemon Lane Refuse Area	8
9	1981-1984	U.S. EPA	File	Maps/Tables re: Water and Soil Quality at the Lemon Lane Landfill Site	18
10	06/00/81	City of Bloomington/ Utilities Lab	File	Testing Samples from the Lemon Lane Landfill Site	1
11	06/26/81	Poe, S., Indiana State Board of Health	File	Letter re: PCB's at the Lemon Lane Dump Site	1

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13	07/16/81	Gray, H., IDNR	Davoli, D., U.S. EPA	Letter re: IDNR File Data on Five Sites Including Lemon Lane Landfill	6
14	07/29/81	Lillich, R., U.S. EPA	Miner, W., U.S. EPA	Memorandum re: June 30 and July 1, 1981 Inspection at the Lemon Lane Landfill Site	7
15	08/26/81	DeFouw, T. & S. McCone: U.S. EPA/ Region 5/ Technical Assistance Team	Vanderlaan, G., U.S. EPA	Memorandum re: August 25, 1981 Inspection at the Lemon Lane Landfill Site	2
16	09/09/81	Lillich, R., U.S. EPA	Miner, W., U.S. EPA	Memorandum re: Data Results from Lemon Lane Landfill	61
17	11/23/81	Bieze, C.F., Ecology and Environment, Inc.	File	Memorandum re: Insepction of the Westinghouse PCB Disposal Sites w/Attached (1) Site Inspection Report, (2) HRS Scoring Package and (3) Preliminary Assessment	36
18	12/21/81	Lillich, R., U.S. EPA	Miner, W., U.S. EPA	Memorandum re: Sampling at Lemon Lane Landfill	38
19	1982-1983	O'Brien & Gere; et al.	U.S. EPA	Charts/Graphs/Notes re: Well Data for the Lemon Lane Landfill Site	100
20	03/10/82	Peoples, R., City of Bloomington	Magel, B., U.S. EPA	Letter re: PCB Analysis at the Lemon Lane Land- fill Site	2
21	03/25/82	U.S. EPA	File	Lemon Lane Landfill Study Area/Background Study	9
22	06/09/82	Schmall, D., U.S. DOJ	Kelly, D., Jones, Day, Reavis & Pogue	Letter re: Implementa- tion of a Remedial Action Plan for the Bloomington Sites w/Attached Sampling Results	10

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24	08/00/82	Alt & Witzig Engineering, Inc.	U.S. EPA	Record of Subsurface Exploration for the Period July 7-August 5, 1982 at the Lemon Lane Landfill Site	14
25	11/00/82	Ecology and Environment, Inc.	U.S. EPA	Interim Report for the Lemon Lane Landfill Site	26
26	11/24/82	Lee, G. O'Brien & Gere Engineers, Inc.	McKay, E., Jones, et al.	Letter re: Monitoring Well and Piezometer Installation at the Lemon Lane Landfill Site w/ Attachments	10
27	12/07/82	Blasland, W., O'Brien & Gere Engineers, Inc.	Highland, J. Environ	Letter Transmitting the Groundwater Sampling and Analysis Program Document for the Lemon Lane Landfill Site w/Attachments	17
28	12/08/82	Geosciences Research Associates, Inc.	U.S. EPA	Report: Geology and Hydrology of Lemon Lane Landfill (DRAFT)	41
29	01/28/83	Blasland, W., O'Brien & Gere Engineers, Inc.	Highland, J., Princeton, NJ	Letter Forwarding Groundwater Analytical Results and Topographic Map for the Lemon Lane Landfill Site	14
30	02/04/83	Blasland, W., O'Brien & Gere Engineers, Inc.	Highland, J., Princeton, NJ	Letter re: Hydrogeologic Information for the Lemon Lane Landfill Site w/ Attachments	91
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32	05/00/83	Blasland & Bouck Engineers, P.C.	U.S. EPA	Airphoto Analysis Report (DRAFT) for the Monroe County Landfill Site "C" Investigation	16

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34	05/06/83	Lillich, R., U.S. EPA	U.S. EPA	On-Scene Coordinator's Report for the Lemon Lane Landfill Site	152
35	06/06/83	CH2M Hill	U.S. EPA	Remedial Action Master Plan for the Lemon Lane Landfill Site (DRAFT)	126
36	06/09/83	Sanders, W., U.S. EPA	Adamkus, V., U.S. EPA	Memorandum re: Immediate Removal Request for the Lemon Lane Landfill Site	9
37	12/11/83	Bieze, C., Ecology and Environment, Inc.	File	Memorandum re: Summary of Data Generated from E&E's Work at the Lemon Lane Landfill Site	18
38	00/00/84	U.S. EPA	File	Summary of Remedial Alternative Selection for the Lemon Lane Land- fill Site (ENFORCEMENT CONFIDENTIAL)	28
39	00/00/84	Blasland & Bouck Engineers, P.C.	File	Subsurface Log for the Lemon Lane Landfill Site for the Period March 24 - May 11, 1984 (Holes B.1 through B.8)	9
40	03/19/84	Lee, G., Blasland & Bouck Engineers, P.C.	Reich, K., U.S. DOJ	Letter re: Proposed Draft Investigation Protocol for the Lemon Lane Land- fill Cover Thickness Testing Program	4
41	04/30/84	Goldman, R., Blasland & Bouck Engineers, P.C.	Levin, G., Westinghouse Electric Corporation	Letter re: Laboratory Analysis of Lemon Lane Refuse Samples	2
42	08/03/84	Thomas, L., U.S. EPA	U.S. EPA	Enforcement Decision Document: Remedial Alternative Selection for the Westinghouse Sites (Including the Lemon Lane Landfill Site)	195

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44	03/00/85	Niedergang, N., U.S. EPA	Strecker, J., Indiana State Board of Health	Letter re: Four Test Results for Soil and Water Samples Taken at Sargent's Pond During October 1984	3
45	05/14/85	U.S. EPA	File	Provisional Final Report of Exposure Assessment/ Health Effects Study for Three Waste Sites in Bloomington, IN	57
46	12/00/85	Indiana University/ School of Public and Environmental Affairs	Westinghouse Electric Corporation	Report: Well Water User Survey Around Four PCB Contaminated Sites	146
47	03/04/86	Kozlowski, S., Ecology and Environment, Inc.	Bieze, C., Ecology and Environment, Inc.	Sampling Data Report for 26 Low Soil Dioxins and Furans for the Period November-December 1985 for the Lemon Lane Land- fill Site w/Attachments	15
48	04/14/86	Bieze, C., Ecology and Environment, Inc.	File	Memorandum re: Dioxin Sampling at the Lemon Lane and Neal's Landfill Sites	11
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